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Tumor of the Brain Involving the Ocular Nerves.

Specimen presented to the Medical Society of Washington, D. C.

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TUMOR OF THE BRAIN INVOLVING THE OCULAR NERVES.

BY CLARENCE R. DUFOUR, PHAR. D., M.D.

Mrs. H., widow, age about 56 years was referred to me at the Woman's Clinic, in the summer of 1894, on account of her eyes. Upon examination I found a complete paralysis of the muscles supplied by the third, fourth and sixth nerves, an exophthalmus and optic atrophy, all on left side. I diagnosed the trouble as being in the brain and so told the daughter who accompanied her. I could obtain no specific history. She had been operated upon some months previous for empyema of left antrum, the opening being made in the cavity of second molar tooth; there was free drainage through the nostril when I saw her. I kept the antrum well washed out with sol. boric acid and gave her sat. sol. iodid of potassium, 10 gtt. three times daily, increasing one drop daily, until she was taking 30 gtt. three times daily. Any attempt to increase this amount produced such constitutional disturbance that it could not be done. She was kept on this treatment until complete symptoms of iodism were manifested, when it was changed to 1-16 gr. bichlorid of mercury and 3 grs. potassium iodid three times daily, and continued for months with occasional intermission of a few days. No result whatever from the treatment. About the middle of the summer she began to complain of intense pain in her head, which at first yielded to anodyne treatment but which soon became constant and nothing but morphia would allay. About this time there began to be symptoms of loss of sensation



on side of face and anesthesia of cornea, indicating that the first division of the fifth nerve was being implicated. This condition continued, with no abatement of the symptoms; she had periods of hallucinations, and as her daughter was obliged to work away from home, and there being no one to leave the mother with, the latter was sent to the hospital. It was thought best to reopen the antrum so as to establish freer drainage; this was done, considerable pus escaping. It was then washed out with antiseptic solution two to three times daily. An examination of the urine was made with results as follows: Amber in color, cloudy ppt., acid reaction; small amount of albumin, epithelial cells and pus were found. After operation on antrum the pain in head subsided for a few days but began again and continued with occasional periods of intermission. She was discharged from hospital in the early part of November. Her condition gradually became worse, her right eye began to show symptoms of incipient atrophy of the optic nerve and an external squint was manifested. She was able to go about until April 1895 when she had to go to bed. She grew worse, her mind wandered and word deafness became manifest. On May 3 she died. On the following morning the skull was opened and the brain removed; It was put into a 2 per cent. solution of formalin, and a few days later the examination revealed the following condition: Gumma of dura mater in the anterior part of left middle fossa; this involved by extension the left anterior temporo-sphenoidal lobe; the growth surrounded the internal carotid artery, exerting pressure on the cavernous sinus and involved the left optic nerve at the commissural origin; considerable edema of the left anterior sphenoidal lobe. A second and smaller gumma involved that part of the brain mass which constitutes the left olfactory convolution; the third and smallest lay in the angle at the right optic commissure. The bone around the first growth had lost its compact covering and had become porous; the dura was very adherent

to the bone. The ocular conditions during life were cleared up, I think, satisfactorily by the findings at the post-mortem. The cavernous sinus receives anteriorly the ophthalmic vein through the sphenoidal fissure, and on its inner walls is found the internal carotid artery and the sixth nerve; on its outer wall are the third, fourth and the first division of the fifth nerve.

The pressure exerted by the tumor upon the sinus explains the paralysis of the muscles and the anesthesia of cornea, etc., this pressure together with pressure upon the ophthalmic vein, accounts for the exophthalmus by preventing the return flow of blood through the angular and ophthalmic veins into the cavernous sinus. The pressure also being exerted upon the optic nerve in front of the chiasm, was the cause of the optic atrophy of left eye. The edema of the temporo-sphenoidal lobe, would, I think, satisfactorily explain the word deafness. The atrophy of the right eye was due to the smallest tumor in the angle of the right optic commissure. The cause of the external strabismus is somewhat obscure, as there was no implication of the third nerve on that side; my opinion is that there was pressure exerted upon this nerve in the region of the sphenoidal fissure, probably as it passed through it. The case was referred to me by Dr. Heiberger, and the post-mortem was made by Dr. D. S. Lamb of the Army Medical Museum, of this city.

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